

Fall-2021

①

①

Class Area

```
private int length;  
private int width;
```

public Area (int l, int w) {  
 this.length = l;  
 this.width = w;

}

public int getLength () {

```
    return this.length; }  
    (0.001) zifft ← 01 snil
```

(m·zifft + 1v·zifft + d + x). tu02 ← 01 snil

public int getWidth () {

```
    return this.width; }  
    { zifft ← 01 snil
```

②

public int returnArea () {

```
    return this.length * this.width; }
```

②

psvm }

Area rectangle = new Area(5, 7);

sout (rectangle.getLength());

sout (rectangle.getWidth());

sout (rectangle.getArea());

}

~~7~~

②

A line 11 → this(100, 0);

line 15 → sout (a + b + this.v1 + this.a1);

line 19 → sout (this.v1 + this.a1 + x + y);

③

Class Electronics {

void printInfo() {

sout ("A typ-... elect-...");

}

}

③

Class Mobile extends Electronics ~~not~~

@Override

```
void printInfo () {
```

```
    sout ("A mobile is ---");
```

```
}
```

~~not~~

Class Laptop extends Electronics ~~not~~

@Override

```
void printInfo () {
```

```
    sout ("A laptop is ---");
```

```
}
```

~~not~~

Class SmartWatch extends Electronics ~~not~~

@Override

```
void printInfo () {
```

```
    sout ("A smartwatch is ---");
```

```
}
```

~~not~~

④

③

Ⓐ

line 26: 10 70

jehetu java passes object by value pass  
kore so original reference er upor kono  
effect porbe na

line 28: 10 70 (swap কৰা বাবা but java (0-  
primitive only pass-by-value)

line 30: 20 85.0

Ⓑ

e1 = new Exam(); } new object create কৰ  
e2 = new Exam(); } previous e1, e2 remove কৰ  
যাই automatically কৰিব কৰ  
গুনবাবে. Collector দিব

④

Class Member

private String name;

private int age;

private String number;

private double salary;

private double experience;

Member (String nam, int ag, String num, double sal,  
double ex) {

this.name = nam;

this.age = ag;

this.number = num;

this.salary = sal;

this.experience = ex;

}

↓

public void setName (String namo) {

this.name = nam;

}

public String getName () {

return this.name;

}

not used  
but can be

②

public void setAge ( int ag ) {

    this. age = ag;

}

public int getAge () {

    return this. age;

}

Same for  
get method  
set

→ number, salary, experience

} end of Member

Class Employee extends Member

String designation;

Employee ( String nam, int age, String Dnum, double sal,  
double ex, String desig ) {

    Super ( nam, age, num, sal, ex );

    this. designation = desig;

}{

(7)

```
→ public void changeDesignation() {
    if (getExperience() > 5) {
        this.designation = designation + senior;
        cout("Designation changed");
    } else {
        cout("Change not possible");
    }
}

→ }
```

public string getDesignation() {
 return this.designation;
}

≠ end of employee class

⑧

```
public class MainClass {
    public static void main(String[] args) {
        Employee em = new Employee("John", 30, "0123456789", 50000.0, 7.5, "ML Eng");
    }
}
```

em. changeDesignation();

System.out.println(em.getDesignation()) → NL Eng Senior.

}

}

⑤

A 10  
80  
80

B

Bus (String license\_no);

Super ("BMW", 120.0, 2023);

this.license\_no = license\_no;

}

@Override

Void display () {

Super. display ();

System.out.println (" student name is ");

}

}

Class MainAccess {

psvm {

Bus obj = new Bus (" ABC123 ");

}

}

10

6  
a

Class WeightedItem extends Item

double weight;

WeightedItem (String name, double unit\_price,  
double weight) { ← }

Super (name, unit\_price);

this.weight = weight;

→ }

@override ("es ist B&G") and war = false

double calculatePrice () {

return weight \* unit\_price;

}

≠

⑤ Class CountableItem extends Item {

int quantity;

CountableItem (String name, double unit-price, int quantity);

super (name, unit-price);

this. quantity = quantity;

→ }

{ (String name, double unit-price, int quantity) attribute

@ override

double calculatePrice () {

return quantity \* unit-price;

}

7

⑥

public static calculateTotalPrice (Item[] items) {

double total = 0;

for (Item i: items) {

total += i. calculatePrice();

}

return total; } ("brutto für ca.") für {

12

Fall-2020

first chapter and student class

i a i

Define the class Student

int id;

String name;

float cgpa;

Student (int id, String name, float cgpa)

this.id = id;

this.name = name;

this.cgpa = cgpa;

}

ii void updateStudent (int id, float new\_cgpa)

if (students[id] != NULL)

students[id].cgpa = new\_cgpa;

}

else

{ cout ("ID not found"); }

13  
void printStudentDetail (int id) {

if (students[id] != NULL) {

student st = students[id];

sout (st.name);

sout (st.id);

sout (st.cgpa);

}

else {

sout ("Id not found");

}

}

⑥

after execution `g1.update (new Garbage(3))` Garbage  
Object with value 2 create ~~but~~ but ~~garbage~~ variable so  
store ~~so~~ so ~~garbage~~ Collection ~~so~~ ~~so~~ eligible

`g1.update (new Garbage(3))` argument create ~~so~~ in `g1`  
~~store~~ ~~so~~ refer ~~so~~ to ~~garbage~~ Collection ~~so~~ ~~so~~ eligible

2

(a)

i) line 3 of public AM1 class cause other package एवं access बाते पारदे, public remove बाते किले **Mid1** : package एवं static use की पारदे है।

ii) AM1 Construction public, 33470 other package

ਮਾਮੂ ਪੁਬਲਿਕ ਰਨਮੂ ਕਾਂਡੀ ਅਤੇ ਡੈਫਾਊਲਟ।  
ਕਨਸਟਰੋਟਰ Mid1 ਪੈਕੇਗੇ ਨਾਲ ਸਾਡੀਆਂ ਅਤੇ ਸਾਡੀਆਂ ਨਾਲ।

iii) If access modifier नहीं दिया गया है तो direct access कर सकते हैं।

(পাঠ্য বা (e) বৰ্ণ) স্বাক্ষৰ, প্ৰ নির্বাচন নথি।

→ protected int is value after trip

→ private point B is the 02 in off mode 03

↳ Using public method (setters & getters)

AME class access ରାଜ୍ୟ ଲାଭୀ-

(b)

Psvm {

double[] array = {1.1, 12.2, 3.3, 4.4, 15.5, 6.6, 7.7, 8.8};

double sum = 0;

for (double num : array) {

if (num &lt; 10.0) {

sum += num;

}

System.out.println("Sum of array elements is: " + sum);

System.out.println("Length of array is: " + array.length);

System.out.println("First element of array is: " + array[0]);

}

f() prints sum of array elements

and length of array

{

{

16

③

①

public class ChildFlower extends flower {

private String flowerName;

ChildFlower (int nPetals, String color, String flowerName) {

Super (nPetals, color);

this.flowerName = flowerName;

}

{m1 = + m2}

public void setFlowerName (String fName) {

this.flowerName = fName; {m2} f2

}

{(f1), f2} f2

public String getFlowerName () {

return this.flowerName;

}

}

(b)

i) object of child class "child flower" ~~will~~ printFlower

তবু মাত্র পাস রাখ যুক্ত এখন childFlower ~~বিদ্যুৎ~~ printName()

method override ~~বিদ্যুৎ~~ এখন (ii) বিদ্যুৎ সিদ্ধু

(ii)

Same as 3(a)

@Override

public void printName() { } ( ) বলগোবি বিদ্যুৎ

sout ("Flower name: ") ~~বিদ্যুৎ~~ flowerName;

}

: (এখন) ফুৰু

Summer-2020

1. "public class Animal" hobe nahole tiger theke access korte parbe na
2. "public/protected String type;"
3. "public/protected int age;" cause default only same package er moddhe access kora jay
4. zoo.exotic package er moddhe "import living.animal" hobe

18

B. Class Child extends Parent {

int var3;

public Child (int var1, int var2, int var3) {

super (var1, var2, var3);

this. var3 = var3;

}

void display () {

super. display ();

sout (var3);

}

{

2

A

void mySuperFunction (String s, int i) {

}

void mySuperFunction (String s1, int i1, boolean b1) {

}

(B)

(i)

Parrot is flying (overriding)

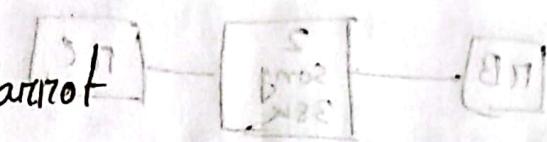
(ii)

bind. speak uncomment करें, error



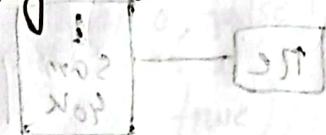
Reference type: Bind

Object type: Parrot



So Bind can access only its property ~~the speak()~~ as speak()

method parrot is property; so error



(C)

psvm {



Student[] st = new Student[3];



Student[0] = new Student("Bashar", 3.78);

Student[1] = new Student("Khaled", 3.66);

Student[2] = new Student("Rafiq", 3.7);

for (Student s: st) {

    cout (s.name + " " + s.cgpa);

{

{

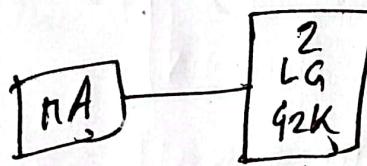
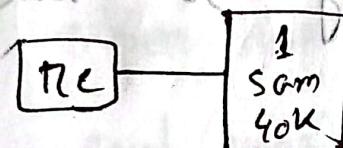
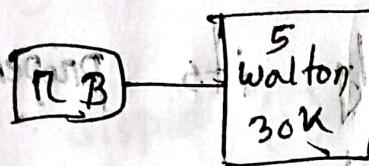
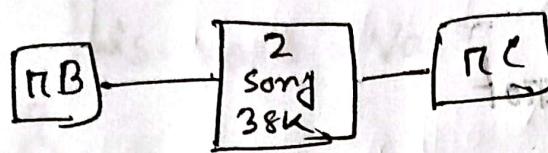
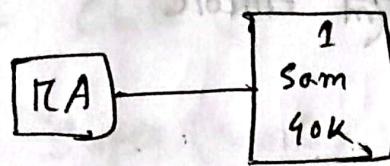
20

3

6

2 5 1 Gibimane

二



:(85°C, nad 30K) frubuf2 curv = [0] frubuf2

:(22.8, 'balloN') tribute over = [11 tribute

(F. & S. "initial")  $\text{f}_{\text{initial}}^2 \text{ cur} = [S] \text{ f}_{\text{initial}}^2$

$f(t_2; \theta)$  first?

;(app.2 + " " + errr.2) 1002

(4)

public Currency (double val, boolean isAvail) {

amount = val;

this.isAvailable = isAvail;

}

psvm }

Currency X = new Currency (0.0, false);

Currency Y = new Currency (1000.0, false);

Currency Z = new Currency (5.0, true);

}

Output

5000.0 false

3000.0 false

4000.0 true

(MP = amount \* 2.5f)

(Min = amount \* 2.5f)

(MT = amount \* 2.5f)

}

5000.0 + 3000.0 + 4000.0 = 12000.0

amount

{ (a < amount) {

if (b > 0) {

22

Spring 2022

①

Class Marks {

public String id;

public double quizMark;

public double midMark;

public double finalMark;

public Marks (String id, double qM, double mM, double fM) {

this.id = id;

this.quizMark = qM;

this.midMark = mM;

this.finalMark = fM;

}

public void passedOrNot () {

double totalMark = this.quizMark + this.midMark + this.

finalMark;

if (totalMark ≥ 55) {

System.out.println("Passed");

}

else}

sout ("Failed");

}

}

}

public class Run

PSVM

Marks st1 = new Marks ("31", 80.0, 70.0, 60.0);

st1. passedOrNot();

}

}

(2)

@

public void setB (double b)

this. b = b;

}

public double getB()

return this. b;

}

24

⑥ override (int a, double b, int c) {

super(a, b);

this.c = c;

}

⑦ @override

void show() {

}

⑧ override2 (Base ob) {

super(ob);

}

⑨ @override

void show() {

sout ("sum of ---");

}

③  
②

Hello from P class!

Hello from C class!

Double value: 11.22

Double value: 2.99

Integer value: 10

Double value: 3.145

⑥

Class PaperbackBook extends Book {

Void description() {

Sout ("PaperBack books are ---");  
}

Void putPageMarker (int pageNo) {

Sout ("Page marker ---");

}

}

~~return~~

if ((e.vibes) > 100 & (e.vibes) < 200)

26

Class Test {

PSVM {

Book book1 = new Book();

PaperBackBook book2 = new PaperBackBook();

book2 ~~put~~ PageMarken (50);

}

}

Class sphere extends GeometricShape {

double radius;

Sphere (double radius) {

this.radius = radius;

}

@Override

double volume () {

return (4.0 / 3.0) \* PI \* (Math.pow(radius, 3));

}

⑥ Class Cylinder extends GeometricShape }

double radius;

double height;

Cylinder (double radius, double height) }

this.radius = radius;  $\{ \text{radius} \}$

this.height = height;  $\{ \text{height} \}$

}

double area = 2 \* PI \* radius \* height;

@Override

void volume() }

return PI \* radius \* radius \* height;  $\{ (\text{radius}, \text{height}) \}$

}

}

21.01

22.01

by lost tool msg shows idc on p-ml

captioned { - the first word is msg causing a de-ml  
subtitled { - now in a msg causing a de-ml

28

5  
a

public class A {

protected int x;

}

public class B extends A {

psvm {

A obj = new A();

obj.x = 10;

cout <(obj.x);

}

}

b

①

10, 15

20, 25

ii line-34 → obj create ~~x~~ but ref? ~~not~~

line-36 → previous P2 ~~not~~ access ~~not~~ 20/10 ~~not~~ } Garbage  
line-38 → previous P1 " " " " " " " " " " } Collection

1

a

protected String name;

protected int age;

protected Address address;

b

public class Student extends Person {

private Address address;

public void setAddress(Address address) {

this.address = address;

}

public void print() {

cout &lt; (address.city);

cout &lt; (address.postCode);

}

}

②

Class EBook extends Book }

public String format;

public EBook (int chapters, int pages, String format) {

super (chapters, pages);

this.format = format;

}

@Overrides

public void printSummary () {

super.printSummary ();

self (format);

}

:(this.format) two2

:(super.format) two2

{

(3)

@a

@Override

public double getPrice()

double discountedPrice = price - (price \* discount / 100);

return discountedPrice;

}

⑥ DiscountedItem[], items = new DiscountedItem[5]

items[0] = new DiscountedItem("IL", 100, 5);

[1]

[2]

[3]

[4]

double totalSalesValue = 0.0;

for (DiscountedItem i: items)

totalSalesValue += i.getPrice();

}

cout (totalSalesValue);

}

④

package movie;

public class Titanic {

    public String directorName;

    public String featuredSong;

    public Titanic (String dN, String fs) {

        this.directorName = dN;

        this.featuredSong = fs;

    Static {

        [5]

        [8]

        sout (" Titanic sank [P] — ");

    }

    public void showDetails () {

        sout (this.directorName);

        sout (this.featuredSong);

}

PSVM }

Titanic titanic = new Titanic ("---", "---");  
titanic.showDetails();

}

}

⑤ abstract class Vehicle {

public abstract void move();

public abstract void permission();

}

abstract class MotorVehicle extends Vehicle {

public abstract void refillTank();

}

Class Rickshaw extends Vehicle

@Override

public void move() {

    --=

34

@Override

public void permission() {

====

}

}

Class CNG extends MotorVehicle {

@Override

public void move() {

====

}

(() move biov frontend sitting

(() moving biov frontend sitting

@Override

public void permission() {

====

@Override

public void refillTank() {

====

}

bioV at bioV same for **Car** and **Bus**

}

both are extends MotorVehicle and

override method